OPINION

BY HAFEEZ AHMED

THE THERAPY IS IN THE FLOSSING NOT THE FLOSS

The most effective way to achieve and maintain a healthy mouth and smile is education and prevention – specifically primordial and primary prevention. Primordial prevention aims to stop people developing risk factors before the disease starts and primary prevention aims to correct risk factors that have developed before disease starts.

In respect to oral hygiene, the current recommendations state that the precise regime should be tailored to individuals based upon risk factors and their current oral health status. This includes brushing for two minutes twice daily supplemented with interdental cleaning.[1] It is also known that a lifestyle which incorporates interdental cleaning improves the fabric of a person's health profile.[2,3]

As a clinician, I am strongly biased towards prevention and flossing. I have always felt that floss is a winner - it embodies the perfect properties for implementing and realising primary prevention. The patient in figure 1 has followed my advice and uses tape floss alone for interdental cleaning. I prefer tape over string to avoid 'flossing clefts'.[4] My experience and knowledge of floss and the ways of using it has evolved over the years, to the point where I have innovated a 'flossing system' I am proud of. The purpose of this article is to encourage more people to embrace flossing.

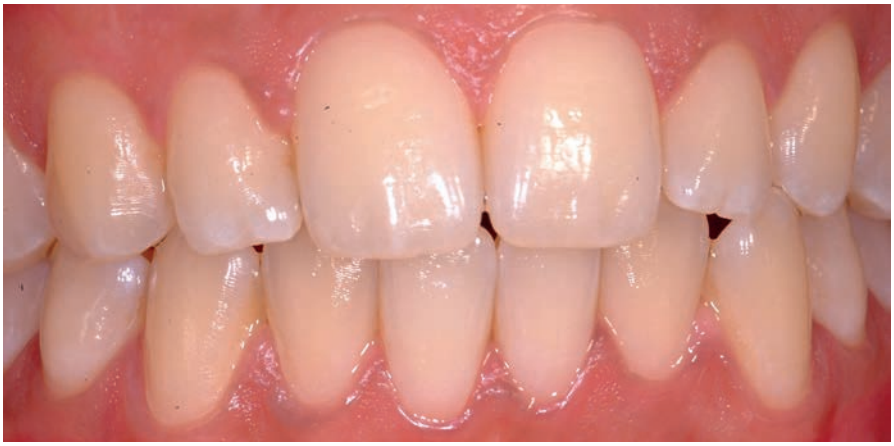

Figure 1: **Healthy mouth and smile**

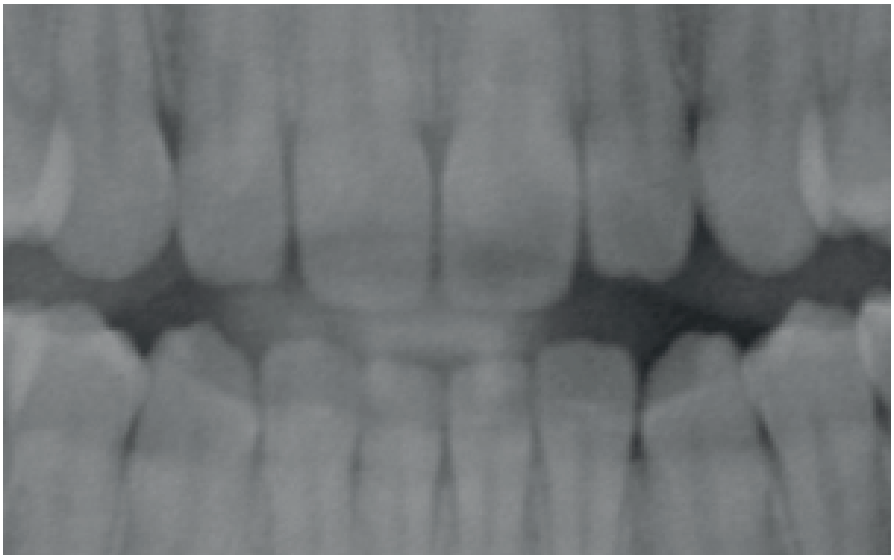

Figure 2: **Radiograph of smile in fig. 1**

Point to note – a differentiation

When primary prevention is not successful and bone is lost there is a shift to secondary and tertiary prevention. The aim of secondary prevention is to stop the disease recurring after successful treatment and the aim of tertiary prevention is to stop the complications of the disease, such as tooth loss. As a rule, when the bone loss is minimal, I coach patients to supplement flossing with a round ended toothpick at the specific site or sites. The patient in figures 3 and 4 uses tape

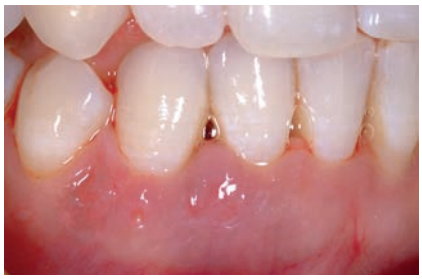

Figure 3: **Inflamed papillae between teeth 42 and 43**

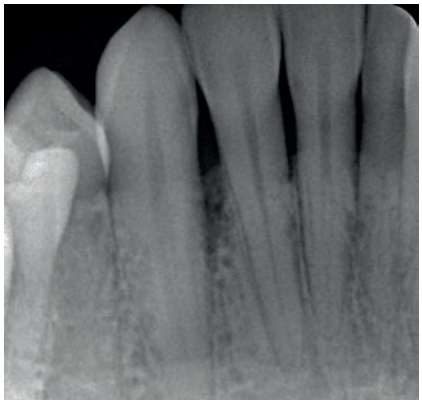

Figure 4: **Bone loss mesial tooth 43**

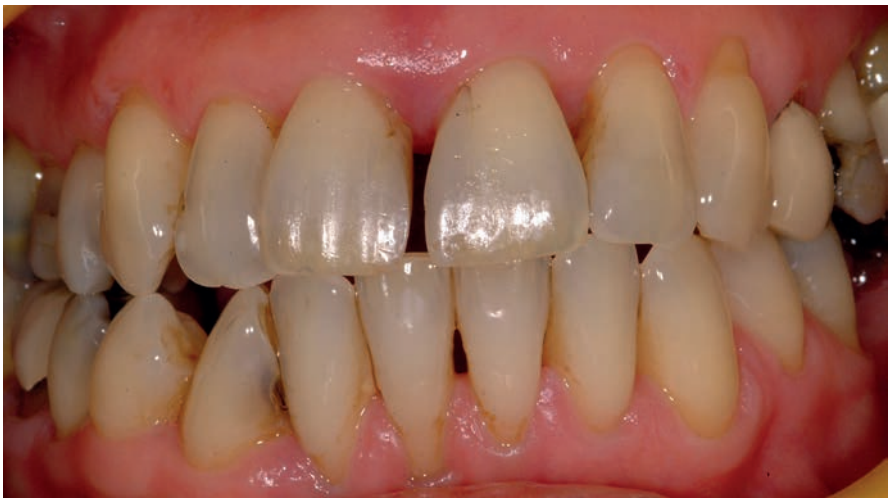

Figure 5: **Significant bone loss**

floss for interdental cleaning, this is supplemented with the use of a round ended toothpick on the mesial surface of tooth 43.

When the bone loss is significant (Fig. 5) I coach patients to further supplement flossing and toothpicks with interdental brushes.

Caution

Every oral hygiene aid has the potential to work well but they also have the potential to cause damage. Avoiding abrasion is one of the main reasons floss has remained at the top of my list. I am wary of a complete reliance on brushes as, in my experience, the bleeding often stops when the abrasion starts. The patient in figure 6 relied exclusively on interdental brushes because she has upper and lower fixed orthodontic retainers. 'Bleeding stops when abrasions starts' is the adage I associate with brushes, like the adage some of my colleagues associate with chlorhexidine mouthwash: 'if it isn't staining it probably isn't working.'[5]

Evidence

Evidence based healthcare is essential – the evidence provides an insight upon which we develop treatment strategies. It also stimulates innovation. But often, frustratingly, the studies lack the details for us to fully understand the precise circumstances faced by the patients they feature. It is also important to note that the studies only explain what has happened for some patients in some settings, and not all patients.

Over the last 10 years the evidence has been helpful and informative although it has also created some controversy around flossing.[6] The controversy is that some professionals, patients and journalists think the evidence is saying 'flossing is waste of time.'[7]

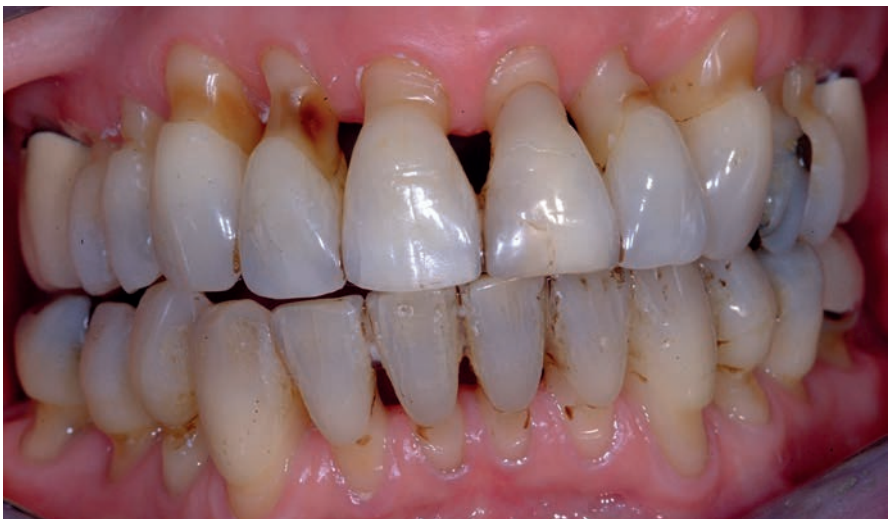

Figure 6: **Gingival recession and tooth surface abrasion**

To clarify, this is not true. There is not a conflict over the value of flossing. When done well, as part of an overall care regime, it is beneficial.[8-12] There are, however, known situations which hamper it, for example, residual calculus and imperfect margins on restorations. For me, the evidence confirmed what I have observed in some of my patients – but it is not true for them all. I can, however, understand the confusion: in some studies, at first glance, it is not always obvious if the evidence is about the value of flossing or if it is about how some patients are struggling to use current products to their benefit.

"Flossing cannot be recommended other than for sites of gingival and periodontal health, where inter-dental brushes (IDBs) will not pass through the interproximal area without trauma. Otherwise, IDBs are the device of choice for interproximal plaque removal." [13]

My approach works within the frame of this statement in that I recommend flossing for prevention. Where I differ is when prevention fails, I do not move directly to interdental brushes. I recommend a round ended toothpick as an adjunct to flossing in sites with minimal bone loss. I add interdental brushes to the regime for sites where the bone loss is significant.

"The working group opinion and overall consensus was that flossing could not be recommended where interdental spaces were large enough to accommodate interdental brushes, but it may have a role where spaces were too tight to accommodate interdental brushes." [14]

At first glance the above statement (and many like it) seem to say that flossing cannot be recommended. This is not what it says. It says that flossing cannot be recommended in sites where prevention has failed. Looking back at figure 5, my recommendation is to use dental floss in the healthy sites and to supplement the floss with round ended toothpicks in specific sites where minimal bone loss has occurred and to consider using interdental brushes in specific sites where the bone loss is more significant.

World Health Organisation

The World Health Organisation urged

oral health providers (in the resolution of its 74th Assembly) to focus more on a *"…health-centered preventive approach and less on a pathology-driven treatment approach."* [15]

To this end, flossing fits the realm of 'preventative approach' and inter-dental brushes fit the realm of 'pathology-driven treatment approach'.

Lifestyle

In my experience, when oral hygiene aids fail it has less to do with the aid itself and more to do with the patient's lifestyle – it is usually inadequate time dedicated to the task. Lifestyle covers belief, desire, motivation, attitude, ambition and these things influence a person's engagement in preventive measures (and bad habits). In a very small number of people the aids fail due to high genetic susceptibility.

A lifestyle which incorporates interdental cleaning improves the fabric of a person's health profile.[2,3] On the other hand, poor oral health and periodontal disease has been linked to 57 serious systemic conditions.[16] Science has not been able to show whether individuals who engage in interdental cleaning also engage in other healthy habits or if the interdental cleaning alone can convey such a benefit by reducing risks of periodontitis, tooth decay, and tooth loss.

It makes sense to me that the type of person who spends 8-10 minutes per evening on the intricacies of interdental cleaning is the same person to engage in other beneficial habits.

Thus, 'the therapy' is in the act of making the time to floss regularly. The therapy is taking place alongside the reduction in interdental plaque and the gingival inflammation. The therapy is in reflecting over the food debris that can easily be seen on the floss as it does its job. The therapy is in the confidence of fresh breath in the morning. The therapy is in the silence, the concentration, the discipline and in slowing yourself down to spend some moments in your own mind – alone. The planning, the concentration, the discipline, the distraction, the desire, the execution, all contribute to the therapy. Most of all, the therapy lies in the mindset (and the act) of taking personal responsibility for one's oral health.

Frustrations

It is hard enough to persuade patients to floss in the first place. It is also well recognised that they are generally resistant to change and need constant support and encouragement for it to happen. These are issues that are likely to persist. So, of course it is frustrating when additional doubt and confusion is wrongfully planted upon them. It makes prevention a more difficult proposition.

Another frustration is that some patients lie about using floss.[17] I am afraid, in my experience, practically everyone gives a fake answer. Usually, to avoid the cognitive dissonance of admitting to not having done something beneficial. In addition, trust in society is low and patients lie to protect themselves against unnecessary treatment and falsely elevated charges. The truth is a person's best attempt at it and cannot be measured by science.

As for the frustrations of sensational headlines in journalistic articles, unfortunately, criticising a small part of the process, like flossing, whilst not committing to the full preventative requirement is common (and lazy). Some people do not appreciate that dental flossing is not a skill one is born with, it needs to be learnt. This is essential for it to be effective. The training is usually provided by a dental therapist, a dental hygienist or a dental oral health educator.

Innovation

My interpretation and perception of the science have evolved over my career through experience, and continues to do so. My knowledge of floss and the ways of using it has evolved over the same time. In addition to this, I am privileged in that I spend, on average, 75 minutes with a single patient for simple supragingival PMPR including oral hygiene instructions.

As an undergraduate student when my teachers explained flossing to me, it made perfect sense. It became obvious in patients who flossed that the response was beneficial - but, watching other patients doing it explained why many studies have found otherwise. Back then, I coached my patients to take floss from a dispenser and to wrap it around their fingers to use it. Most of them found controlling its insertion between their teeth difficult. Reliance on fingers also made adapting the floss to the tooth surface difficult. After qualifying, I moved forward and coached my patients in a technique called 'loop flossing'.

The loop in Fig. 7 was made using Glide dental Tape taken from a traditional dispenser. I would make it chair side as part of the oral hygiene demonstration and then patients would make their own at home. It made flossing easier but was still heavily reliant on finger dexterity, plus we found that it takes 10 small knots for the overall knot to hold without slipping!

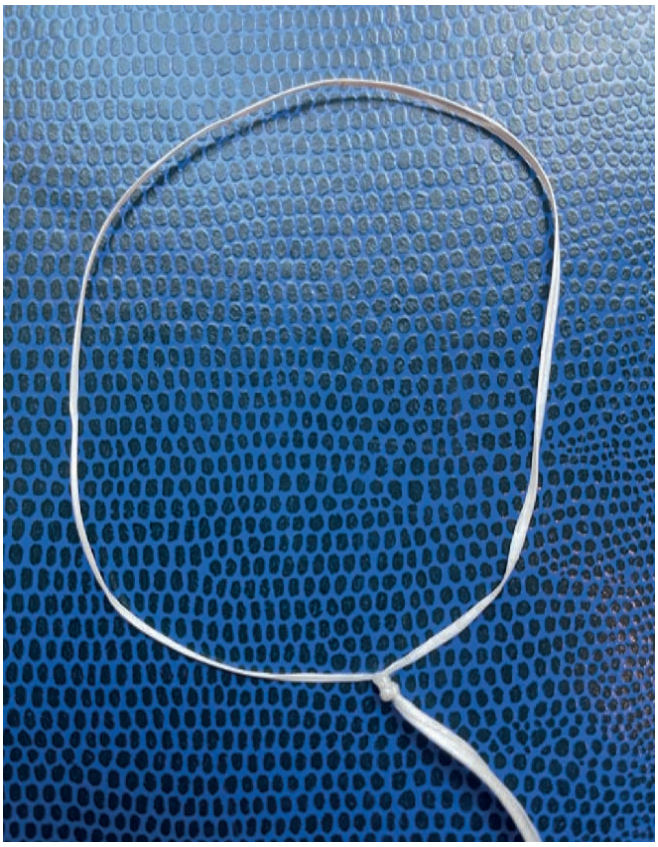

Figure 7: **A Loop made using Glide dental tape**

During the late 1990's single-use disposable floss picks became very popular. I tried them but did not like them. The handles bent easily, the floss lacked tension and I could not reach my posterior teeth with them. Thereafter, for a while, I recommended The Hummingbird, the powered flosser made by Oral-B but, suddenly, it was no longer available.

From about 2000 onwards, my preference shifted to a rigid handle the length of a toothbrush, like the one in figures 8 and 9 I could reach my molars, and it was reassuringly stiff.

In 2013, I made a video 'oral hygiene instructions with gum specialist Dr Hafeez Ahmed' and uploaded it to YouTube. The video is comprehensive and it includes the loading and use of the handle. **https://www.youtube.com/watch?v=NeTzFLjALXM&t=2s**

Most of my patients found it tricky to load the tape to the handle and once they did, it slowly unwound. They also found the arms on the handle fractured after only a small number of loadings.

The handle in figure 9 is what I am currently recommending to patients. I have taken what worked best and developed it into a system with a rigid long-lasting handle onto which a prefabricated tape loop can be loaded. It is ideal in-surgery for checking the smoothness of root surfaces after calculus removal – although sharp spicules reduce the lifespan of the loop.

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Figure 8: **Dental tape looped around a rigid handle**

Figure 9: **A rigid handle the length of a toothbrush onto which a prefabricated loop of dental tape can be loaded creating the perfect tension.**

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Cite this article:
Ahmed H. The therapy is in the flossing – not the floss. *Dental Health* 2026;**65(4)**: 9-33. https://doi.org/10.59489/bsdht186

A summary of this article will be on display at The International Symposium of Dental Hygiene in Milan Italy 2026 in the Innovation/Project section.

How often do you feel the floss loop should be replaced? To assist in the innovation: Scan the QR code to take the survey.